

# The US 5 A Day Program: a model for increasing fruit and vegetable consumption

## I. The role of the US National Cancer Institute and public partners

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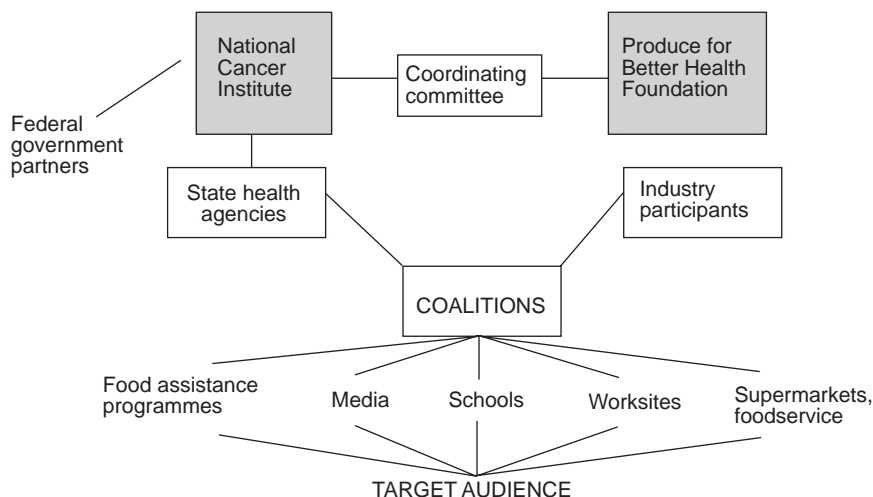
The foundation of the US 5 A Day for Better Health Program is its unique multilevel public–private partnership, in which public and private sectors work together at the national, state and local levels to lower cancer risk by increasing fruit and vegetable consumption.

The collaborative 5 A Day model is depicted in Fig. 1. The US National Cancer Institute (NCI) and the Produce for Better Health Foundation (PBH) are the main national partner organizations. The development of a partnership between the US NCI and the fruit and vegetable industry was made possible through the formation of the PBH, a non-profit consumer education organization which represents the highly diversified fruit and vegetable industry. The PBH represents the first time that the fruit and vegetable industry has collaborated on such a large scale with a health partner toward a common objective that includes fresh, frozen, canned and dried products.

The agreement between the NCI and PBH calls for the NCI to serve as the programme's scientific voice to the public, to secure health and government partners, to conduct evaluation and to advance intervention research. The PBH's role is to facilitate implementation in the food industry, work with the NCI to develop guidelines and programme direction, assure that programme standards are maintained by industry partners, and assist with evaluation.

Together, the NCI and PBH provide nationwide leadership and an infrastructure for the social marketing and theory-based programme which is transferable to

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**Fig. 1** The 5 A Day organizational model

state and local levels<sup>1</sup>. Nationally, the PBH and NCI conduct market research, develop promotional themes and materials, and generate publicity to support all partnership activities. At the state and local levels, partners can build on to these to organize and run complementary interventions with regionally and locally relevant applications. Additional collaborations with federal agencies, such as the US Centers for Disease Control and Prevention (CDC), the US Department of Agriculture and the Indian Health Service, as well as national organizations such as the American Dietetic Association, extend the reach of the programme and help leverage resources to develop and disseminate materials and behaviour change strategies.

The programme is strengthened by the scientific credibility of the NCI and state health agencies. The NCI licences all state and territorial health departments to use the 5 A Day logo and message. Similarly, the PBH licenses industry and private-sector partners to do the same. The state health authorities and organizations and the local-level industry participants work together via community coalitions to bring the 5 A Day message and programmes to targeted populations in a variety of settings. These coalitions include representatives from state and local government, the fruit and vegetable industry, commodity boards/commissions, farmers' markets, food assistance programmes, professional and voluntary organizations, schools, universities, print and broadcast media and business. The composition and structure of each state coalition is left to the discretion of the state coordinators who tailor interventions and activities to meet the needs of their state. The 5 A Day Program relies heavily on its state and community leaders to carry out the programme in communities.

## National level 5 A Day resources

In 1991, as part of the original NCI 5 A Day concept approval process, a 5-year, \$27 million budget was allocated for 1992–1997. This budget plan included \$16 million for 5 A Day diet and behavioural change research and \$5 million for media/communications, with the balance for programme evaluation and state health agency research.

From 1997 to the present, the diet and behavioural change research addressing fruits and vegetables has continued through competitive continuations of the original 5 A Day grants, and through dissemination of the 5 A Day behavioural change strategies into new investigator-initiated research. From 1997 to the present, the budget has continued for 5 A Day communications, state health agency research and programme evaluation activities.

## Licence agreement/service-marked logo

The use of the licensing process and the service-marked (trademarked) logo to enlist participation in a national nutrition campaign is a unique and vital aspect of the US 5 A Day Program. The 5 A Day service-marked logo (Fig. 2) and the corresponding licensing agreements and programme guidelines have been essential in conducting a programme of 5 A Day's magnitude. The logo requirements and programme guidelines provide the unwavering framework from which each public- and private-sector partner can create its own signature programme.



**Fig. 2** The US 5 A Day logo

The need for such a point of control and consistency cannot be overemphasized. The NCI uses a licence agreement to grant participants the permission to use the service-marked 5 A Day logo, slogan and materials. The licence agreement serves as a mechanism for the NCI to obtain formal commitment to the programme from industry and state health agencies. The NCI has licensed PBH to sublicense the use of the 5 A Day logo and other materials to industry participants for activities consistent with the programme guidelines. The NCI licenses state health agencies; the PBH licenses industry members on the state, regional and local levels. PBH licensees are currently assessed a fee for participation, whereas NCI health licensees are exempted from any licensing fees. The health agencies can sublicense either coalitions (state or local) or single entities to build a state-level, public–private partnership.

In signing the licence agreement, participants agree to comply with the terms and conditions set forth in the 5 A Day Program guidelines and criteria. Participants are expected to conduct 5 A Day initiatives with other community organizations and industry members and to do so in a manner that presents fruits and vegetables as low-fat foods, increases consumer understanding of diet and health relationships, and helps consumers develop skills to choose a nutritious diet. All these efforts are to be consistent with the US *Dietary Guidelines for Americans*, which first appeared in 1980 and is now in its fourth revised edition<sup>2</sup>.

## Service-mark

The 5 A Day logo is registered as a service-mark (trademark), a symbol used to identify a specific brand of service. In the 5 A Day Program, the ‘brand’ of service is health education. Ideas, products, inventions and services constitute highly valued intellectual property that serves as the basis of many successful businesses. The NCI has the responsibility to legally protect the 5 A Day logo and does so, for example, in the case of real or perceived logo infringements. In addition, the PBH monitors the industry licensees for logo use infractions; the state health authorities are also vigilant in detecting any misuse of the logo and corresponding programme guidelines.

The NCI licence agreement is designed to facilitate community-level programme implementation while maintaining scientific accuracy and credibility. All licensed participants use the logo to identify their affiliation with the NCI and the produce industry’s programme. For widespread dissemination of the 5 A Day message, licensees are encouraged to use the 5 A Day logo on materials, recipes and fruit and vegetable products in a manner consistent with the 5 A Day Program.

By using the same standards, all recipes, photography, advertising, publicity and other intervention materials have the potential for being used by partners throughout the country. Similarly, since all partners agree to participate in at least one promotion a year, a standard is set for a minimum level of promotional activity.

The programme logo and corresponding criteria and guidelines have facilitated partnering. Use of the trademarked logo ensures consistent execution of the message in all channels by setting standards and establishing agreements with all partners participating in the programme.

## **Programme components**

The 5 A Day Program strives to disseminate the message and behavioural change activities through four main programme components: (i) media and communications, (ii) point-of-sale intervention, (iii) community-level programmes, and (iv) research efforts. Using social-marketing techniques and theory-based strategies, the 5 A Day Program and all its partners work together to develop, implement and evaluate a variety of interventions.

### **Media and communications**

Mass media plays an essential role in the national 5 A Day Program. Building on lessons learned from other community-intervention programmes, the 5 A Day communications component uses a theory-driven, social-marketing approach based on the health communications model<sup>3</sup>. The media component of the programme is implemented in a complementary way at the national level by both the NCI's Office of Communications and by the PBH.

Focus group research derived from the media target audience was used to design messages aimed at the programme's primary audience, currently identified as healthy adult members of the general public who are eating two to three servings of fruits and vegetables daily. Continuous feedback from surveys of adult consumers, a central concept in the social-marketing approach, helps ensure that the messages stay fresh and relevant. The national media and communications plans, as well as products for key media activities, are disseminated to the 5 A Day state health authorities and industry participants for localization. Dissemination from the national media and communications plan to the community-level public health agencies and industry dramatically increases the reach of the messages and leverages other resources for further dissemination.

### **Point-of-sale intervention**

The point-of-sale (supermarkets, food-service operations) intervention channel is a key component of the programme, particularly because of the large industry presence in the programme. Interventions in supermarkets have the potential of reaching consumers in all demographic strata. In the 5 A Day Program, the supermarket channel was initiated first and has received the most attention, including the use of the 5 A Day theme and logo in print and broadcast advertising. The programme encourages the inclusion of interactive events, such as supermarket tours and taste tests, within this channel to attract the attention of consumers and actively engage them in the programme. Periodic promotional campaigns that focus on specific themes, such as salads, fitness or microwaving, keep the programme visible in supermarkets. The food-service and cafeteria point-of-sale interventions can be equally effective and

provide for important environmental changes, such as in menu and vending machine food choices, in the effort to affect nutrition and change behaviour.

### **Community-level programmes**

The 5 A Day Program is implemented by using existing public health nutrition funding and voluntary industry in-kind funding at the community level, where health authorities and industry licensees conduct 5 A Day events. The NCI does not provide funding for state-level programmes. States are encouraged to develop coalitions involving representatives from the public and private sectors. Members might include state departments of education and agriculture, cooperative extensions, voluntary agencies, hospitals, cancer centres, food banks and licensed 5 A Day industry participants. The purposes of collaborating are to reach consumers more effectively, maximize the use of scarce resources, coordinate state and national media efforts, encourage innovation and create working relationships between the public and private sectors at both the state and local levels.

The programme's community intervention relies on a theoretical foundation of health-behaviour change, including social cognitive theory, consumer information processing, health belief model, social marketing and stages of change. These theories help guide the state licensees and 5 A Day participating grantees in the development of activities and materials that should be effective in changing eating behaviours. The focus is on behavioural change, theory-based and interactive activities to build skills for healthy dietary change. Community efforts target a range of ages and population groups through a variety of intervention channels, such as schools, worksites, media, supermarkets and community organizations. Schools, supermarkets and worksites are commonly used channels for disseminating 5 A Day activities.

### **Research efforts**

The research component is essential for long-term success of the programme. Currently, the NCI is funding research grants in communications and media, in programme evaluation and in nutrition and behavioural change, specifically to increase fruit and vegetable consumption. The PBH has funded research grants in evaluation of point-of-sale and media activities. The behavioural change research component consists of nine community-based research studies funded by the NCI in 1993 for 4 years<sup>4,5</sup>. The purpose of the grants is to implement and evaluate interventions aimed at increasing fruit and vegetable consumption among specific population segments in specific community channels. Programme and process evaluation research is conducted to determine programme effectiveness and quality. Evaluation research focuses on the national baseline and follow-up surveys to measure fruit and vegetable consumption and the corresponding psychosocial factors, and a process evaluation is performed for intervention activities by states and the industry. To assess state-generated educational interventions, the NCI funded, in cooperation with the CDC,

several state-level grants to evaluate 5 A Day activities implemented within specific community channels.

## **Conclusion**

The national infrastructure of the 5 A Day Program is designed to forge partnerships with key industry and health authority groups at the national, state and local levels with the ultimate goal of reaching all Americans with the 5 A Day message. The number of well-placed, high-quality partners is a major strength of the programme. The programme structure leverages the resources of a wide variety of organizations and mobilizes a cadre of motivated professionals already in place at the national, state and local levels. Public health innovations are easily diffused through this network, with the potential of benefiting each organization's goals and objectives.

The unique structural feature of the 5 A Day Program is an ongoing viable working relationship between the NCI and PBH, complete with a strong commitment to strategic planning and open communication between the public and private partners at all levels. It has been demonstrated that the challenges of the public and private sectors working together can be overcome with frequent and open communication.

The service-marked logo, with corresponding programme guidelines and criteria, is instrumental in establishing the common framework in which the 5 A Day Program is conducted. Fruits and vegetables are uniformly promoted within the context of a low-fat, high-fibre diet. The uniformity is crucial to maintaining the scientific credibility and therefore the value of the programme. The service-marked logo licensing process was essential in keeping the industry programme efforts in line with the public health communities' programme focus. The licensing process was deemed less essential with the public health partners, but none the less has been important in holding all partners to the same criteria and standards. The licensing process also has been helpful for state-level coalitions, in order to define standards of practice.

An unexpected benefit of the public-private partnership has been the parallel sharing of resources. For example, the PBH funded the 5 A Day baseline survey when it became apparent that the NCI would not be able to conduct the survey in a timely manner. In the media and communications programme, the NCI has funded most of the formative research and tracking research, and both the NCI and PBH fund consumer communications activities. Many of the national communications activities are designed so that states can localize the media products.

This multilevel, public-private partnership structure with the service-marked programme logo can be used, and is being considered currently, to plan public health message programmes. In the USA, an interagency diabetes health campaign and a bone health (osteoporosis) campaign are in the formative stages of planning partnership programmes with their respective public partners. The experiences of the 5 A Day Program are key in planning these types of partnership programmes.

The 5 A Day Program structure is unprecedented in its size and its potential effect on public health programming in the USA. The first 5 years of the programme

built the infrastructure. The challenge now is to garner sufficient funding and utilize that infrastructure to diffuse not only the 5 A Day message, using state-of-the-science research findings, but also other important nutrition and health messages.

## Acknowledgements

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## References

- 1 Heimendinger J, Van Duyn MA, Chapelsky D, Foerster S, Stables G. The national 5 A Day for Better Health Program: a large-scale nutrition intervention. *J. Public Health Manage. Prac.* 1996; **2**(2): 27–35.
- 2 US Department of Agriculture/US Department of Health and Human Services (USDA/DHHS). *Dietary Guidelines for Americans*, 4th edn. Home and Garden Bulletin No. 232. Washington, DC: US Government Printing Office, 1995.
- 3 Lefebvre RC, Doner L, Johnston C, Loughrey K, Balch GI, Sutton SM. Use of database marketing and consumer-based health communications in message design: an example from the Office of Cancer Communications' '5 A Day for Better Health' Program. In: Maibach E, Parrott RL, eds. *Designing Health Messages: Approaches from Communication Theory and Public Health Practice*. Thousand Oaks, CA: Sage Publications, 1995; 217–46.
- 4 Havas S, Heimendinger J, Reynolds K, *et al.* 5 A Day for Better Health: a new research initiative. *J. Am. Diet. Assoc.* 1994; **94**(1): 32–6.
- 5 Havas S, Heimendinger J, Damrom D, *et al.* 5 A Day for Better Health: nine community research projects to increase fruit and vegetable consumption. *Public Health Rep.* 1995; **110**(1): 68–79.